

What is claimed is:

1. A built-in antenna mounted on the inside of a wireless communication terminal, comprising:
  - 5 a feed point for supplying electromagnetic signals to the antenna; and
  - a radiator for releasing electric waves based on the electromagnetic waves,
  - wherein the feed point is positioned within a 30% distance radius from the center of the antenna and the electric waves are released non-directionally.
- 10 2. The built-in antenna as recited in claim 1, wherein the feed point is positioned in the right and left center point of the antenna.
3. The built-in antenna as recited in claim 1, wherein the feed point is positioned at a location of  $\frac{1}{4}\lambda$  from the longitudinal end of the radiator.
- 20 4. The built-in antenna as recited in claim 1, further comprising:
  - a short circuit pin for grounding the antenna; and
  - a short circuit line for releasing the supplied signals partially, the short circuit line being positioned
  - 25 between the short circuit pin and the feed point and having the same length as the radiator.
5. The built-in antenna as recited in claim 4, the short circuit line has a meander line structure including an inductance component to offset a capacitance component of a human body.
- 30 6. The built-in antenna as recited in claim 1,

wherein the radiator includes:

a first radiator for releasing Global Standard for Mobile Communication (GSM) band electric waves, the first radiator being stretched out to the upper part of the antenna from the feed point; and

a second radiator for releasing Digital Command Signal (DCS) band electric waves, the second radiator being stretched out to the lower part of the first radiator from the feed point,

wherein an offset current component is minimized and constructive interference occur by making the first and second radiators release electromagnetic signals in the same direction.

7. The built-in antenna as recited in claim 6, further including:

a short circuit pin for grounding the antenna;

a short circuit line for releasing the supplied signals partially, the short circuit line being positioned between the short circuit pin and the feed point and having the same length as the second radiator.

8. The built-in antenna as recited in claim 7, wherein the short circuit line has a meander line structure including an inductance component to offset a capacitance component of a human body.

9. The built-in antenna as recited in claim 8, wherein the second radiator is stretched out in both right and left directions based on the feed point and releases non-directional electric waves by distributing the DCS band electromagnetic signals to the entire contact surface.

10. The built-in antenna as recited in claim 7, wherein the first and second radiators are conductive wires

having a width of  $1.5 \times 10^{-3} \lambda_0$ , and the first radiator has a meander line structure with a space of  $2.0 \times 10^{-3} \lambda_0$  and a total length of  $0.7 \lambda_0$ , while the second radiator has a total length of  $0.35 \lambda_0$ ,

5        wherein  $\lambda_0$  is a wavelength of electric wave released by the radiator at a resonance frequency.

11. The built-in antenna as recited in claim 10, wherein the conductive wire is a nickel-plated copper  
10 material having a thickness of  $0.6 \times 10^{-3} \lambda_0$  and the conductive wire is supported by a frame, which is obtained by injection-molding polycarbonate (PC)-acrylonitrile butadiene styrene (ABS) mixture, and mounted on the inside of the terminal.

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12. The built-in antenna as recited in claim 6, wherein the first and second radiators are formed by using copper tape, and surface coating injection is performed on the surface of the first and second radiators by using a  
20 low-pressure injector to prevent corrosion of the surface.

13. The built-in antenna as recited in claim 6, wherein the first and second radiators are formed of flexible printed circuit board (PCB) and fixed by using an  
25 adhesive material.

14. The built-in antenna as recited in claim 6, wherein the first radiator is veered vertically or diagonally to a surface including the second radiator so as  
30 to make the first radiator relatively far from a hand of a human body.